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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,568	06/27/2001	Darren Kim	6487-60420 (25916-228)	5901

7590 10/29/2002

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ART UNIT	PAPER NUMBER
2675	4

DATE MAILED: 10/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	KIM ET AL.
09/894,568	
Examiner Alecia D Nelson	Art Unit 2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 27 June 2001.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-8, 10-17, 20-25 and 28-65 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-8, 10-17, 20-25 and 28-65 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. ***Claims 53 and 54*** are rejected under 35 U.S.C. 102(e) as being anticipated by Yeom et al. (U.S. Patent No. 5,943,625).

Yeom et al. teaches a wireless input device for transmitting data to a computer comprising a housing (200), a pointing device for generating positional information (25), a non-pointing device mounted on the housing for generating input information for the computer (see column 5, lines 1-7), a transmitter (261, 263) for transmitting data from the pointing and non-pointing devices, and a selector for choosing between operating the input device as the pointing device or non-pointing device (see column 4, lines 43-59).

3. ***Claim 63*** is rejected under 35 U.S.C. 102(b) as being anticipated by Yasuo (JP

10198512).

Yasuo teaches a housing having a top and a bottom a mouse (10) mounted to the bottom of the housing and a touch pad (20) mounted to the top of the housing being used for pointing function (see abstract).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 47, 48, 61, and 65** are rejected under 35 U.S.C. 103(a) as being unpatentable over Herng-Chuen (U.S. Patent No. 5,914,703) in view of Yasuo.

With reference to **claims 47, 48, 61, and 65**, Herng-Chuen teaches a first input device (12) having a top and a bottom, a second pointing device (30) mounted on the top of the housing and a transmitter to transmit information from the pointing device (see column 4, lines 46-58). It is also taught that the portable computer has a computer base (20) with a second input device (22) mounted on the computer base, a display section (14) connected to the computer base. Further it is taught that the computer base (20) has a recess for receiving the first input device, wherein the recess is mounted in front of said second input device (see figure 1).

Herng-Chuen fails to specifically teach the usage of a pointing device mounted on the bottom of the housing. However, it is taught several different arrangements of

the pointing devices mounted on the housing, furthermore placement of a pointing device mounted on the bottom of the housing is well known in the art. Herng-Chuen also fails to specifically teach a receiver for receiving information by wireless transmission. However it is taught that transmission is required in order to control the cursor on the display, furthermore wireless transmission in such a device is well known in the art. Herng-Chuen also fails to specifically teach that the housing is dimensioned such that the input device may be held along its bottom portion in the palm of a hand with the entire top portion accessible by a thumb. However it is taught that the input device is small enough for the user to be able to use different hand arrangements to operate the pointing devices mounting on the input device (see column 4).

Yasuo teaches a coordinate inputting device with the function of a mouse or track ball and the function of a finger pad (see abstract).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for a pointing device to be mounted on the bottom of the housing as taught by Yasuo, in a system with multiple pointing devices as taught by Herng-Chuen to thereby give the user the option to operating the input device as a mouse. It would also be obvious to use wireless transmission in such a device to thereby give the user more freedom to manipulate the device.

6. **Claims 49-52** are rejected under 35 U.S.C. 103(a) as being unpatentable over Herng-Chuen in view of Yasuo as applied to claim 47 above, and further in view of Wang (U.S. Patent No. 5,771,038).

With reference to **claims 49-52** all that is needed is taught above with reference to **claim 47**. However it is not taught the usage of a ergo track, eraser-head, or laser pointer type input device.

Wang teaches the usage of different types of input devices to be used as a second input device of the control device (see FIGS 3, 6, 8, 10, and 15).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to for the control device to have the ability to function using different types of input devices. This would provide a plurality of different embodiments for the user to choose from depending on which is most comfortable for the user.

7. **Claims 16, 17, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blankenship et al. (U.S. Patent No.5,726,684) in view of Yasuo and Herng-Chuen.

With reference to **claims 16, 17, and 20**, Blankenship et al. teaches an compact infrared input device for a notebook computer including a frame housing (70), and a mouse ball (80) coupled to said top or bottom surface of the housing (70). Blankenship et al. also teaches the usage of optical encoders (see column 1, lines 17-38) as well as infrared sensors for wireless transmission mean (see column 3, lines 30-41).

Blankenship et al. fails to specifically teach the usage of a first and second pointing device located on the housing, however does teach that ball (80) could be use in a mouse or trackball, and also fails to specifically teach that housing (70) is of size to be operated in the users hand.

Yasuo teaches a coordinate inputting device with the function of a mouse or track ball and the function of a finger pad (see abstract).

Herng-Chuen also fails to specifically teach that the housing is dimensioned such that the input device may be held along its bottom portion in the palm of a hand with the entire top portion accessible by a thumb. However it is taught that the input device is small enough for the user to be able to use different hand arrangements to operate the pointing devices mounting on the input device (see column 4).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have a compact input device with two pointing devices located thereon capable of transmitting information by means of wireless transmission in which the user can operate in his/her hand in a portable computer to thereby provide the user with easier manipulation of the input device.

8. **Claims 21-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blankenship et al. in view of Yasuo and Herng-Chuen as applied to **claim 16** above, and further in view of Wang.

With reference to **claims 21-23** all that is needed is taught above with reference to **claims 16**. However it is not taught the usage of a ergo track, eraser-head, or laser pointer type input device.

Wang teaches the usage of different types of input devices to be used as a second input device of the control device (see FIGS 3, 6, 8, 10, and 15).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to for the control device to have the ability to function using different types of input devices. This would provide a plurality of different embodiments for the user to choose from depending on which is most comfortable for the user.

9. **Claim 64** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuo as applied to **claim 63** above, and further in view of Blankenship et al.

Yasuo teaches all that is needed as applied to claim 64 above, however fails to teach the usage of a wireless transmitter to transmit information.

Blankenship et al. teaches that signals between pointer unit (6) and computer (10) could be made coupled using wireless techniques including infrared (see column 3, lines 31-41).

Therefore it would be obvious to one having ordinary skill in the art at the time of the invention to include wireless transmission to thereby provide the user with a larger area to operate without the restrictions of a cable.

10. **Claim 62** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuo as applied to **claim 61** above, and further in view of Kim et al. (U. S. Patent No. 5,952,996).

Yasuo teaches all that is needed as applied to claim 67 explained above, however fails to specifically teach the receiver is mounted on the display section.

Kim et al. teaches the usage of a plurality of IR sensors located on a display frame for use with an infrared pointing type wireless controller (see col. 4, lines 1-10).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to include receivers on the display section to thereby give the user a larger area to operate the input device.

11. **Claims 1-8 and 34-41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blankenship et al. (U.S. Patent No. 5,726,684) in view of Kim et al. (U.S. Patent No. 5,952,996).

With reference to **claims 1, 2, 34, and 35**, Blankenship et al. teaches a computer base section (40) containing a keyboard (50), a display section comprising a display frame with a bezel holding a liquid crystal display (20), display section being coupled to the computer base by hinges (30), and an infrared sensor attached to said notebook computer (see col. 3, lines 5-41).

Blankenship et al. fails to specifically teach that the infrared sensor is disposed on the display frame of the display section so that a wide-angle infrared detection response is achieved.

Kim et al. teaches the usage of a plurality of IR sensors located on a display frame for use with an infrared pointing type wireless controller (see col. 4, lines 1-10). Even though Kim et al fails to specifically teach that a wide angle of detection is provided by using of a plurality of IR sensors located on the display frame, however, it would be obvious to one skilled in the art that a wide angle of detection will be provided.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to include the plurality of IR sensors on a display frame in a infrared pointing type wireless controller, as taught by Kim, to the notebook computer as taught by Blankenship et al. to thereby provides an arrangement for transmitting data in a wireless controller.

With reference to **claims 3-7, 36, 38, 39, and 40**, Blankenship et al. teaches a computer base section (40) containing a keyboard (50), a display section comprising a display frame with a bezel holding a liquid crystal display (20), display section being coupled to the computer base by hinges (30), and an infrared sensor attached to said notebook computer (see col. 3, lines 5-41).

Blankenship et al fails to teach the usage of 2 IR sensors located on the display frame which are used for receiving transmitted data, nor a means for combining the signals received.

Kim et al. teaches the usage of a plurality of IR sensors located on a display frame for use with an infrared pointing type wireless controller (see col. 4, lines 1-10). Kim also teaches the infrared pointing type wireless controller includes the system main body (40) for generating and transmitting the carrier frequency signal at standby, receiving the carrier signal and code signal, reflected and coming back selectively, by the infrared ray receiving sensors (21), calculating coordinates of a pointed position according to a difference between the intensities of the received infrared signal at each of the sensors (21), for matching the coordinates with a point on the display screen (11),

and means for indicating a position for selectively reflecting the carrier frequency signal transmitted from the system main body (40) to generate a code for a remote controlling function (see column 4, lines 34-46).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to use a type of signal combination means when using more than one sensor, as taught by Kim, in a system similar to that taught by Blankenship et al. in order for the system to perform the operations of the received data from the sensors.

With reference to **claims 8, 37, and 41**, Blankenship et al. teaches all that is needed as explained above with reference to **claims 4, 34, and 38**, however fails to teach that the IR sensors are located near the hinge.

Kim et al. teaches the usage of a plurality of IR sensors located on a display frame for use with an infrared pointing type wireless controller (see col. 4, lines 1-10).

Therefore it would be obvious to one having ordinary skill in the art at the time of the invention for the IR sensors in a system as taught by Blankenship et al. to be located near the hinges as taught by Kim et al., which would thereby provide an arrangement for the IR sensors to be placed in order to transmit information.

12. **Claims 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeom et al. in view of Blankenship et al..

Yeom et al. teaches a wireless input device for transmitting data to a computer comprising a housing (200), a mouse button (28) coupled to the top surface of the

housing, a pointing device for generating positional information (25), a non-pointing device mounted on the housing for generating input information for the computer (see column 5, lines 1-7), a infrared transmitter (see figure 1), and a selector for choosing between operating the input device as the pointing device or non-pointing device (see column 4, lines 43-59).

Yeom et al. fails to specifically teach the usage of an optical encoder coupled to the mouse ball. However, the usage of an optical encoder, which is coupled to a mouse ball, is well known in the art.

Blankenship et al. also teaches the usage of optical encoders in reference to conventional methods (see column 1, lines 17-38),

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for an optical encoding means to be included into the device of Yeom et al. as taught by Blankenship and other conventional devices.

13. **Claim 28** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yeom et al. in view of Blankenship et al. as applied to **claim 24** above, and further in view of Klein et al. (U.S. Patent No. 6,163,326).

Yeom et al. and Blankenship et al. teaches all that is needed as explained above with reference to **claim 24**, however fail to teach the usage of a joystick data input device.

Klein et al. teaches a detachable device for a laptop computer in which the second input device may include several other pointing mechanisms such as a joystick (59) (see column 7, lines 21-36).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for the data input device to be of joystick type. This would provide a plurality of different embodiments for the user to choose from depending on which is most comfortable for the user.

14. **Claim 55** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yeom et al. as applied to **claim 53** above, and further in view of Klein et al. (U.S. Patent No. 6,163,326).

Yeom et al. teaches all that is needed as explained above with reference to **claim 55**, however fail to teach the usage of a joystick data input device.

Klein et al. teaches a detachable device for a laptop computer in which the second input device may include several other pointing mechanisms such as a joystick (59) (see column 7, lines 21-36).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for the data input device to be of joystick type. This would provide a plurality of different embodiments for the user to choose from depending on which is most comfortable for the user.

15. **Claims 10-15 and 42-46**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Junod et al. (U.S. Patent No. 5,854,621) in view of Donovan (U.S. Patent No. 5,252,968).

With reference to **claim 10**, Junod et al. teaches an input device for controlling positional information for a computer comprising a housing (100,170), a ball (200) capable of being rotated to determine the cursor position, and that the ball coupled to an optical encoder which provides output signals in response to rotation of the ball (see column 5, lines 1-10). It is further taught the usage of control circuitry that conserves power by operating the optical encoder in a mode when the ball is at rest longer than a pre-selected time interval and the control circuit utilizes the signals of the encoder to determine when to resume a continuous position sensing encoder mode (see column 6, lines 37-65).

Junod et al. fails to specifically teach that the control circuit receives as inputs, the output signals of the optical encoder, nor that the control circuit is also capable of controlling the power to the photo-interruptors of the optical encoder.

Donovan teaches that the control circuit (36) receives as inputs the output signals of the optical encoder (see column 5, lines 28-59). It is also taught that the control circuit is capable of controlling the power to the photo-interruptors of the optical encoder (see column 3, lines 24-46).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for the control circuit to have the capability to control the power of

the photo interruptors to thereby conserve the usage of power when operating the input device.

With further reference to **claims 11 and 42**, Junod et al. fails to specifically teach the usage of an infrared transmitter coupled to the housing for transmitting signals. However, Junod et al. does teach the usage of radio frequency (RF) transmission. The usage of RF transmission and IR transmissions are both well known in the art for a means of wireless communication.

With reference to **claims 12 and 43**, Junod et al. teaches the usage of different transmission channels, which is controllable by the channel selection switch (230) (see column 5, lines 11-33).

With reference to **claims 13 and 44**, Junod et al. teaches a sleep mode, which is when no motion is being detected, therefore no data pulses can be transmitted (see column 6, lines 37-65).

With reference to **claims 14 and 45**, Junod et al. teaches the usage of user settable identification codes (see column 5, lines 34-54).

With reference to **claims 15 and 46**, Junod et al. nor Donovan teach the usage of a laser pointer contained within the input device is well known in the art.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to use IR transmission as opposed to RF transmission in a wireless input device to thereby transmit information for cursor control.

16. **Claims 29-33 and 56-60** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka (U.S. Patent No. 5,049,863) in view of Long et al. (U.S. Patent No. 5,416,909).

With reference to **claims 29 and 56**, Oka teaches an infrared input unit (16) having a first pointing device (17), which transmits positional control information as infrared signals (see column 2, lines 48-63), a computer base section (11) with a second pointing device (11a, 11b) mounted thereon, and a display section comprising a frame with a bezel holding a liquid crystal display (33). Oka also teaches that the infrared input unit (16) is dimensioned to fit into a computer base section of the notebook computer (see figure 1). With reference to **claims 30 and 57**, Oka teaches the usage of a third pointing device (20) connected to an external port (13,19) (see column 2, lines 33-47).

Oka fails to specifically teach the usage of a signal arbitration circuit to determine how inputs from the first and second pointing device are used to control pointer position, however does teach the usage of circuitry which receives signals from the mouse buttons and movement of the mouse (see column 3, lines 34-55).

Long et al. teaches an input-output controller which uses a single transceiver to service multiple I/O ports in a small computer system in which the arbitration logic (12) controls the accessing of the transceiver (14) by the I/O devices (see column 2, lines 56-68). With further reference to **claims 31-33 and 58-60**, Long et al. further teaches that arbitration logic controls the access of the ports to the transceiver, all other I/O devices are locked out until the transfer to or from the current I/O device is complete.

Once the current transfer is complete, the arbitration logic then goes back to arbitrating, looking for the next I/O device that needs service.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for the input device to contain arbitration circuitry to thereby control the input, which is received for controlling the pointer position n the display.

Double Patenting

17. ***Claims 1-8, 10-17, 20-25, and 28-65*** rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1-9** of *U.S. Patent No. 6,424,335*. Although the **claims 1, 4, and 65** of the present application are not identical to *claim 1* in the patent, they are not patentably distinct from each other because they both similarly claim a notebook computer having sensors to receive infrared signals from an infrared input device comprising a base section with a fist input device a display section coupled to the base section by hinges, at least two infrared sensors coupled to the notebook computer, and circuitry to combine the outputs of the signals. With reference to **claims 10, 24, 29, and 56** of the present application, which is not identical to *claims 3 or 4* in the patent, they are not patentably distinct from each other because they both similarly claim a unit for controlling the cursor position of a computer comprising a housing, a mouse ball, an optical encoder, and control circuitry coupled to the optical encoder. With reference to **claims 16, 47, and 63** of the present application, which is not identical to *claim 2* in the patent, they are not patentably distinct

from each other because they both similarly claim a compact ergonometric multi-input infrared input device for a notebook computer designed to be operated in two different hand and finger positions comprising a housing, at least one mouse button, a mouse ball, an optical encoder, a second pointing device, a transmitter, and an infrared sensor. With reference to **claims 34 and 38** of the present application, which is not identical to *claims 5 or 9*, of the patent, they are not patentably distinct from one another because they both similarly claim a portable computer adapted to receive wireless signals from a first input device comprising a computer base, and a display section at least two receivers. With reference to **claims 53** of the present application, which is not identical to *claim 7 or 8* in the patent, they are not patentably distinct from one another because they both similarly claim a housing, a pointing device, a non-pointing device, a transmitter, and a selector. With reference to **claim 61** of the present application, which is not identical to *claim 6* in the patent, they are not patentably distinct from one another because they both similarly claim a housing having top and bottom portion, a first input device mounted on the bottom of housing, a second input device mounted on the top portion of the housing, and a transmitter.

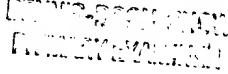
Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D Nelson whose telephone number is (703)305-0143. The examiner can normally be reached on Monday-Friday 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on (703)305-9720. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9700.

adn/ADN
October 18, 2002

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